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(71) Applicant and
(72) Inventor: WATLING, John [GB/GB]; 131 Croydon Road, Anerley, London SE20 7TT (GB).

(74) Agent: PRENTICE, Raymond, Roy; Prentice & Matthews, Calvert's Buildings, 52B Borough High Street, London SE1 1XN (GB).

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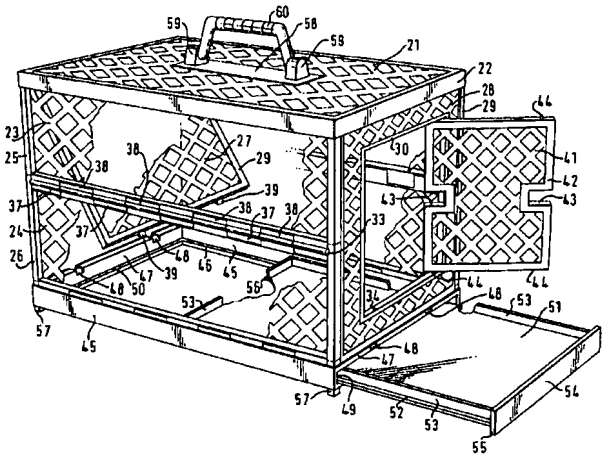
(54) Title: IMPROVEMENTS IN ANIMAL CAGES



(57) Abstract: A cage for an animal comprises a mesh top (21), mesh sides each having an upper part (23) and a lower part (24) and mesh ends (27, 28). The side parts (23, 24) are pivotally connected to the top and the sides (45) of a base frame and to each other. The ends (27, 28) are pivotally connected to the top (21) whereby the cage can be folded when not required for use by folding the ends (27, 28) up to the top (21) and then folding in the side parts (23, 24) so that the top rests on the base frame. The sides (45) of the base frame are provided with grooves (46) for receiving ribs (52) on the sides (53) of a tray (51) so that the tray can be slid into the base frame. One end (47) of the base frame is provided with a slot (49) to permit the tray to pass through it. The end (28) of the cage is provided with a door (41) and a carrying handle (60) is pivotally attached to the top (21). In use, the tray is removed, the cage is placed over an animal, and the tray is slid into place in the base frame to secure the animal in the cage.

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Title: Improvements in Animal Cages

This invention relates to animal cages and is particularly concerned with a cage for transporting domestic animals such as cats and dogs.

A major problem, particularly with cats, is when the animal has to be transported to a vet or to a cattery. A normally docile animal becomes distressed and/or aggressive when attempts are made to put it into a cage frequently drawing blood from a handler as a result of bites and scratches. The animal also attempts to escape from the basket in which it is being held, such attempts often being successful with conventional baskets.

The present invention seeks to overcome this problem by providing a cage in which an animal can be easily put and which provides a secure means of containment once the animal is in the cage.

According to the invention, there is provided a cage for an animal comprising sides and a top wherein at least two sides are substantially parallel and are provided at or adjacent to the edges which are remote from the top with means for retaining a tray in a slidable manner whereby the cage can be placed over an animal without the tray being in position and the tray then being slid into engagement with the retaining means so that the animal is securely held in the cage.

Preferably, a base frame is provided which is secured to at least two sides of the cage. The tray retaining means are desirably provided on two opposite sides of the base frame and may take the form of grooves or slots which are adapted to receive the tray. Said tray may be provided with ribs or ridges which are engageable in the slots or grooves.

According to a preferred embodiment of the invention, the sides are pivotally connected to the edges of the top or to the base frame whereby the cage can be folded when not in use. Catches should desirably be provided to retain the sides in position when the cage is erected.

According to a further preferred embodiment of the invention, two opposite sides of the cage are pivotally connected to the top and to the base frame and each of these sides consists of two substantially equal parts which are pivotally connected to permit the sides to be folded in when the cage is folded.

The base frame or the top is further desirably provided with engagement means to retain the other sides in position in the erected condition of the cage. One or both of said other sides may be provided with a door through which an animal can leave the cage when the door is opened.

The grooves or slots for receiving the tray are desirably provided in the base frame on the two sides to which the foldable sides of the cage consisting of said substantially equal parts are pivotally connected. A slot may be provided in one of the other sides of the frame to allow the base to pass through it.

The cage is further desirably provided with a carrying handle which may be pivotally mounted on the top.

The invention will now be described in detail, by way of example, with reference to the drawings, in which :-

Fig. 1 is a perspective view of one embodiment of an animal cage according to the invention;

Fig. 2 is a perspective view of a second embodiment of an animal cage according to the invention;

Fig. 3 is a section through the cage shown in Fig. 2 but in a partially folded position; and

Fig. 4 is a perspective view of the cage shown in Fig. 2 in a fully folded position.

Reference will first be made to Fig. 1 of the drawings in which the animal cage comprises a top 1, two substantially parallel long sides 2 and two substantially parallel short sides or ends 3. Each side 2 and each end 3 consists of wire mesh but, for the sake of clarity, the mesh on the rear side 2 and the far end 3 has not been shown in Fig. 1. The top 1 also consists of wire mesh, the top, sides and ends being joined together to form a secure cage which can be placed over an animal.

A base frame is secured to the edges of the sides and ends and consists of two long sides 12 and one short side 13. The long sides 12 are releasably connected to the sides 2 of the cage by catches 14 which are pivotally mounted in blocks 15 provided on the outer faces of the sides 12 and are engageable with the mesh of the sides 2 of the cage. Although not shown in Fig. 1, the catches 14 and blocks 15 are provided on both of the long sides 12 of the frame. The frame is held clear of the ground by a pair of strips 16 which extend across the frame from one side 12 to the other.

Each long side of the frame is provided with a groove or slot in the form of a guide runner 18 which is adapted to receive a respective rib or ridge 6 at the sides 5 of a tray 4. The tray is designed to slide into the cage along the guide runners 18, when the cage is located over an animal, and can be pushed in place by means of an end wall 7. The end wall has a lip 8 below the base of the tray by means of which the tray can be withdrawn from the cage. The other end of the tray has an end wall 17 of substantially the same height as the side walls 5.

The end 3 of the cage from which the tray extends is provided with an opening which can be closed by a door 9 which is pivotally mounted on the end 3. A catch

10 is also mounted on the end 3 to hold the door in a closed position. The door is shown partially open in Fig. 1 and the tray is shown only partly inserted into the cage. Finally, a handle 11 is pivotally mounted on the top of the cage.

It will thus be seen that the cage shown in Fig. 1 of the drawings comprises three separate components: the cage, the base frame and the tray. With the tray fully installed in the base frame, the cage could be used in a similar manner to a conventional basket using the access door 9. However, if the tray is removed, the cage can simply be placed over an animal. This is best done when the animal is relaxed, for example when eating or asleep. Alternatively, a handler can engage the animal with one hand and simply drop the cage over the animal at the same time withdrawing the hand. The animal is now secured and the tray can simply be slid in place. The animal will step up and onto the tray. The strips 16 which hold the base frame clear of the ground ensure that the tray will slide smoothly and prevent the animal's tail from being squeezed between the tray and the ground.

The cage shown in Fig. 1 can be used in a different manner to secure an animal. The cage can be unclipped from the base frame and a blanket and/or heat pad could be placed on the tray to encourage the animal to use it as a bed. In this case, the tray will be fully located in the base frame. If the frame and tray is used regularly as a bed, when an animal is relaxing on the bed, it is a simple matter to place the cage over the frame and secure the cage to the frame by means of the catches 14.

Reference will now be made to the embodiment shown in Figs. 2 to 4 of the drawings in which the cage comprises a mesh top 21 surrounded by an upper frame 22, a pair of long sides each consisting of two parts 23 and 24 also of mesh and surrounded by a respective side frame 25,26 and a pair of short sides or ends 27 and 28 also of mesh and surrounded by a respective end frame 29.

As shown in Fig. 3, the frame 25 of the upper part 23 of each side is pivotally connected to a respective side of the upper frame 22 by a pivot pin 31. The frame

26 of the lower part 24 of each side is pivotally connected by a respective pivot pin 32 to a respective side 45 of a base frame. The lower edge of the frame 25 of each upper side part 23 is respectively pivotally connected to the upper edge of the frame 26 of each lower side part 24 by a respective pivot pin 33. Interlocking tongues 37 and 38 on the frames 25 and 26 engage in slots in the frames 26 and 25 respectively and bear against walls 36 and 35 of the frames 26 and 25 to prevent the sides from being folded beyond the substantially vertical position shown in Fig. 2 of the drawings.

The frames 29 of the ends 27 and 28 are pivotally connected to the ends of the upper frame 22 by pivot pins (not shown). The end 28 is provided with an opening 30 in which a door 41 is pivotally mounted. The door also consists of mesh and is surrounded by a frame 42 in which a pair of cut-outs 43 are provided in two opposite sides. The upper and lower edges of the door are each provided with a pair of projections or protrusions 44 which are engageable in bores 34 in the opening 30. When only one projection or protrusion at each end of the door is engaged in a respective bore 34, as shown in Fig. 2, an effective hinge for the door is formed. The door can be closed simply by pivoting it about the engagement of the projections or protrusions 44 with the bores 34 until the other projections or protrusions engage in the respective bores 34. The door can be opened by pressing it with the fingers in the cut-outs 43, the door being made of a material which permits it to flex sufficiently to release at least two of the projections or protrusions 44 from the bores 34 to permit the door to be opened.

The sides 45 of the base frame are each provided with a groove or slot 46. The base frame is further provided with a pair of short sides or ends 47 each of which has, in its upper face, a pair of inclined slots 48. The lower edge of each end frame 29 is provided with a pair of tongues 39 which are engageable in the slots 48. The tongues 39 and slots 48 are so configured that the end walls can be pushed into a substantially vertical position, when the cage is erected, and the cage is maintained in this position by the engagement of the tongues in the slots. In order to fold up the cage for storage, the ends are flexed, being made of flexible

material for this purpose, so that the tongues are forced out of the slots. The ends 27 and 28 can then be folded up to underlie the top 21. Fig. 2 shows the end 27 in a partially folded position and Fig. 3 shows the end 27 in a fully folded position. The end 28 can be folded up in a similar manner once the door 41 has been closed. The sides 23,25 can then be folded as shown in Fig. 3 and the top 21 collapsed onto the base frame to form a compact structure as shown in Fig. 4 of the drawings.

One of the ends 47 of the base frame is provided with a slot 49 through which a tray 51 can be passed. The tray is provided on each side with a rib or ridge 52 each of which is engageable in a respective groove or slot 46 in the sides 45 of the base frame. The tray can thus easily be slid into and out of the base frame. The tray has side wall 53 on three sides and a taller and a thicker side wall 54 on the remaining side which fully closes the slot 49 when the tray is fully inserted into the base frame as shown in Fig. 4 of the drawings. The end wall 54 has a lower lip 55 projecting below the base of the tray to permit the tray to be withdrawn from the base frame. The end of the tray remote from the end wall 54 is provided with a rib or ridge 56 which engages in a groove or slot 50 in the end wall 47 of the base frame when the tray is slid fully into position in the base frame.

The base frame is provided at each corner with a leg or foot 57 to space the base frame from the ground. Finally, a central region of the top 21 of the cage is provided with a solid area 58 on which two mounting blocks 59 are located. A handle 60 is pivotally mounted in the mounting blocks 59.

The cage shown in Figs. 2 to 4 of the drawings can be used in a similar manner to the cage shown in Fig. 1 except that, in this case, the base frame is permanently secured to the cage. Thus, the tray must be removed before the cage is placed over an animal and it is not possible, with this embodiment, to secure an animal in the cage while it is on the tray.

It should be noted that, in the interests of clarity, parts of the mesh in the sides and ends of the cage shown in Fig. 2 have been omitted. The mesh will, of course, extend over the entire sides and ends of the cages as shown by the mesh top 21.

Both of the above-described cages may be made of any suitable material but the cage shown in Fig. 2 is preferably made of metal or a suitable metal alloy and the cage shown in Figs. 2 to 4 is preferably made of a suitable plastics material.

Although the provision of strips 16 or legs or feet 57 for the cages is a highly desirable feature, this is not essential and these components could be omitted if desired.

The invention is not restricted to the above-described embodiments but variations and modifications may be made without departing from the scope of the invention. For example, the tray could take the form of a substantially planar sheet but this is not preferred since, by providing the tray with sides, it serves to collect urine or excrement from an animal during transit. The tray is desirably provided with a suitable locking mechanism (not shown) for retaining it in position within the base frame. Further, a door may be provided at each end of either of the above-described embodiments or doors may be omitted altogether. The ends of the cage could be pivotally connected to the base frame rather to the top.

Moreover, although primarily intended for use with cats, the cage according to the invention is not restricted to cats and can be used for transporting any animals such as dogs, rabbits, hamsters, guinea pigs, ferrets and the like. It will be seen that the cage according to the invention enables an animal to be secured and transported in a stress-free manner and is a considerable improvement over conventional baskets.

CLAIMS

1. A cage for an animal comprising sides and a top, wherein at least two sides are substantially parallel and are provided, at or adjacent to the edges which are remote from the top, with means for retaining a tray in a slidable manner whereby the cage can be placed over an animal without the tray being in position and the tray can then be slid into engagement with the retaining means so that the animal is securely held in the cage.

2. A cage according to claim 1, wherein a base frame is provided which is secured to at least two sides of the cage and wherein the tray retaining means are desirably provided on two opposite sides of the base frame.

3. A cage according to claim 2, wherein the tray retaining means comprise grooves or slots in the sides of the base frame which are adapted to receive the tray and wherein the tray is desirably provided with ribs or ridges which are engageable in said grooves or slots.

4. A cage according to claim 2 or claim 3, wherein the base frame is secured to the cage in a detachable manner.

5. A cage according to claim 2 or claim 3, wherein the sides are pivotally connected to the edges of the top and/or to the base frame whereby the cage can be folded when not in use.

6. A cage according to claim 5, wherein catches are provided to retain the sides in position when the cage is erected.

7. A cage according to claim 5, wherein two opposite sides of the cage are pivotally connected to the top and to the base frame and each of these sides consists of two substantially equal parts which are pivotally connected together to permit the sides to be folded in when the cage is folded, the base frame or the top desirably being provided with engagement means to retain the other sides of the cage in position in the erected condition of the cage.

8. A cage according to claim 7, wherein a door is provided in at least one of the said other sides of the cage.

9. A cage according to claim 7 or claim 8, wherein the tray retaining means are provided in the sides of the base frame to which the said two opposite sides of the cage consisting of said substantially equal parts are pivotally connected, a slot desirably being provided in one of the other sides of the frame to permit the tray to pass through it.

10. A cage according to any one of the preceding claims, wherein a carrying handle is provided which is preferably pivotally mounted on the top of the cage.

AMENDED CLAIMS

[received by the International Bureau on 27 December 2001 (27.12.01);
original claims 1 and 2 amended; remaining claims unchanged (1 page)]

1. A cage for an animal comprising sides and a top, wherein at least two sides are substantially parallel and are provided, at or adjacent to the edges which are remote from the top, with means for retaining a tray in a slidable manner whereby the cage can be placed over an animal without the tray being in position and the tray can then be slid into engagement with the retaining means so that the animal is securely held in the cage, characterised in that a base frame is provided which is secured to at least two sides of the cage and in that the base frame is provided with means for spacing the base frame from a surface on which the said base frame is resting.

2. A cage according to claim 1, wherein the tray retaining means are provided on two opposite sides of the base frame.

3. A cage according to claim 2, wherein the tray retaining means comprise grooves or slots in the sides of the base frame which are adapted to receive the tray and wherein the tray is desirably provided with ribs or ridges which are engageable in said grooves or slots.

4. A cage according to claim 2 or claim 3, wherein the base frame is secured to the cage in a detachable manner.

5. A cage according to claim 2 or claim 3, wherein the sides are pivotally connected to the edges of the top and/or to the base frame whereby the cage can be folded when not in use.

6. A cage according to claim 5, wherein catches are provided to retain the sides in position when the cage is erected.

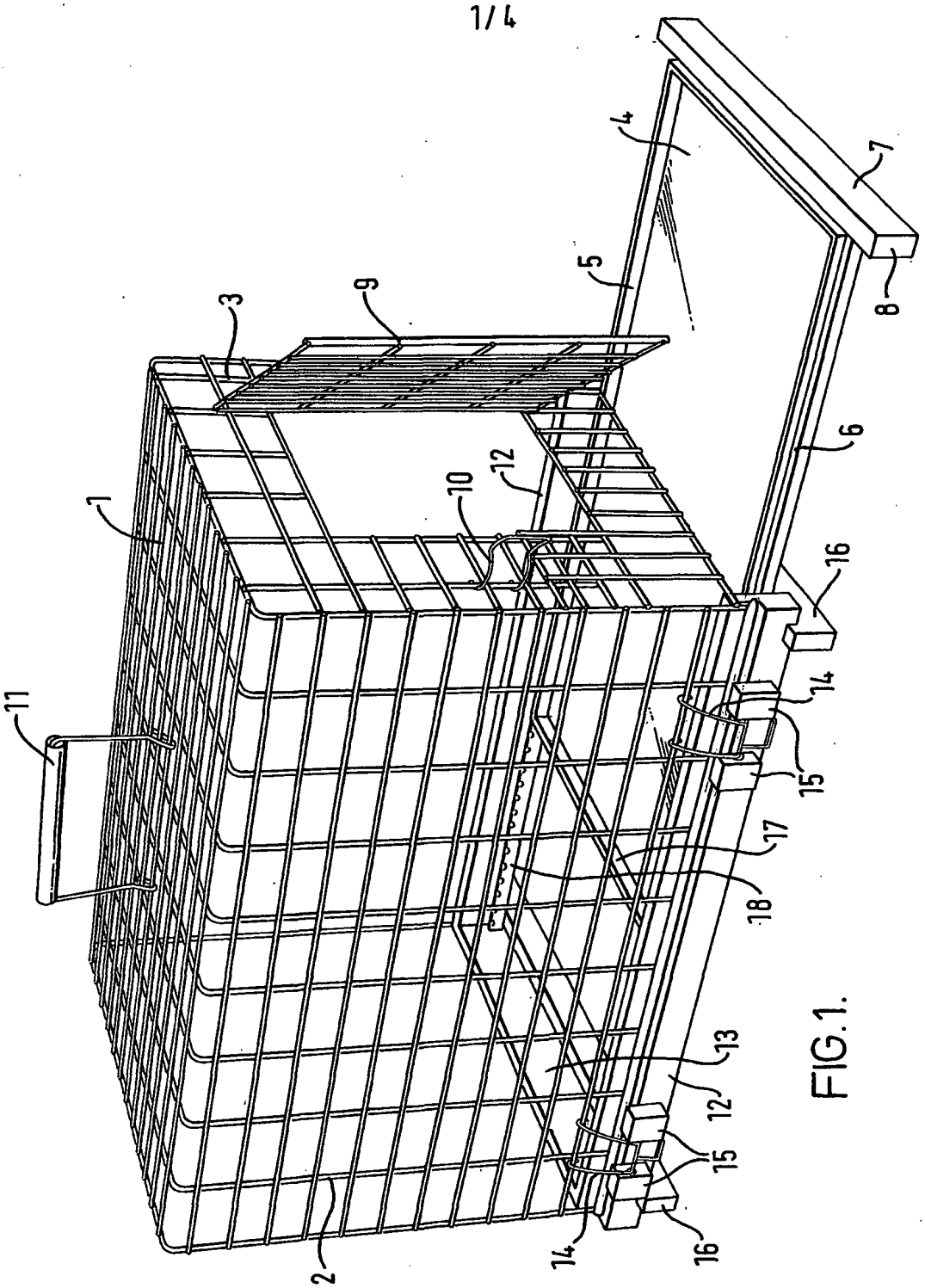

FIG.1.

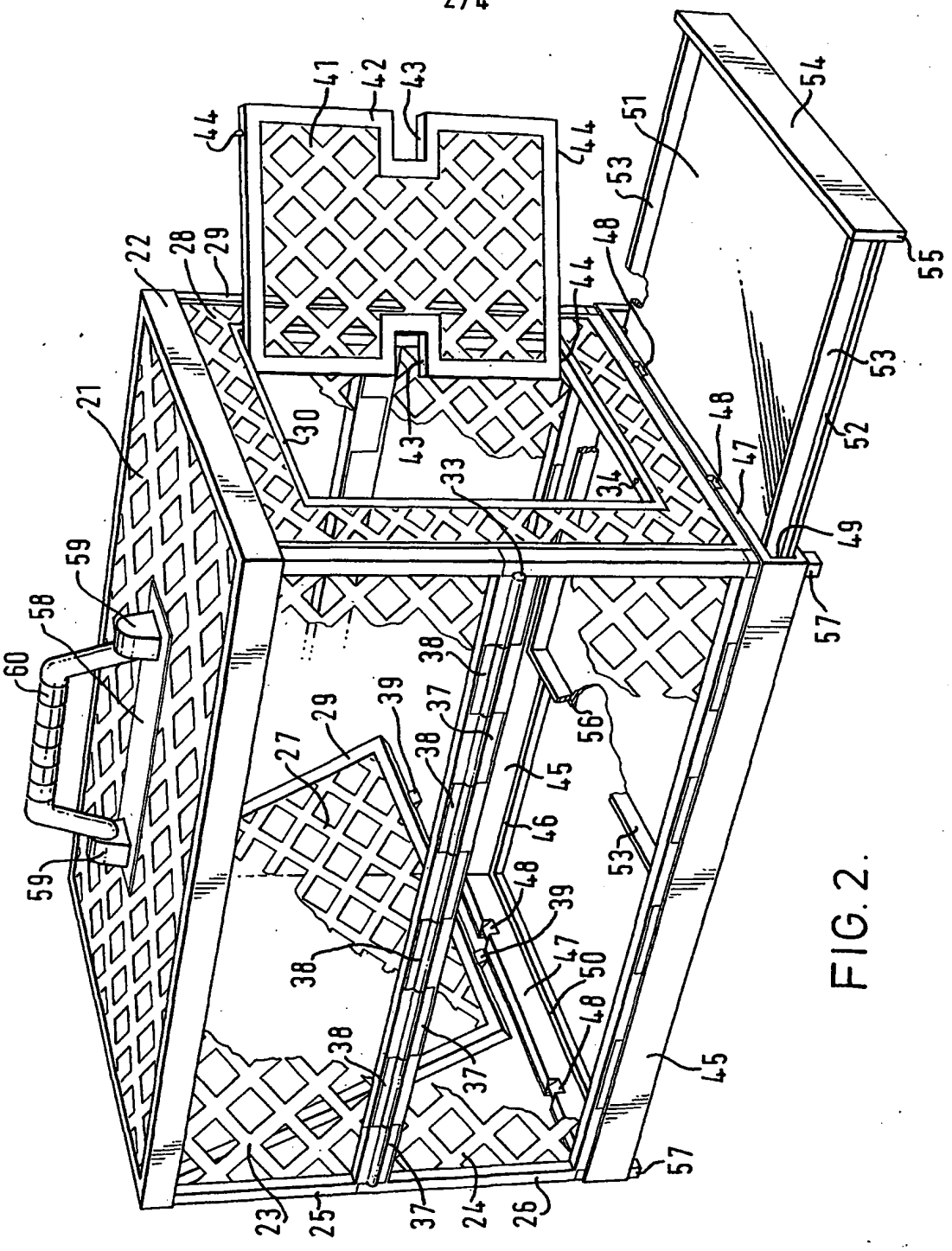
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FIG. 2.

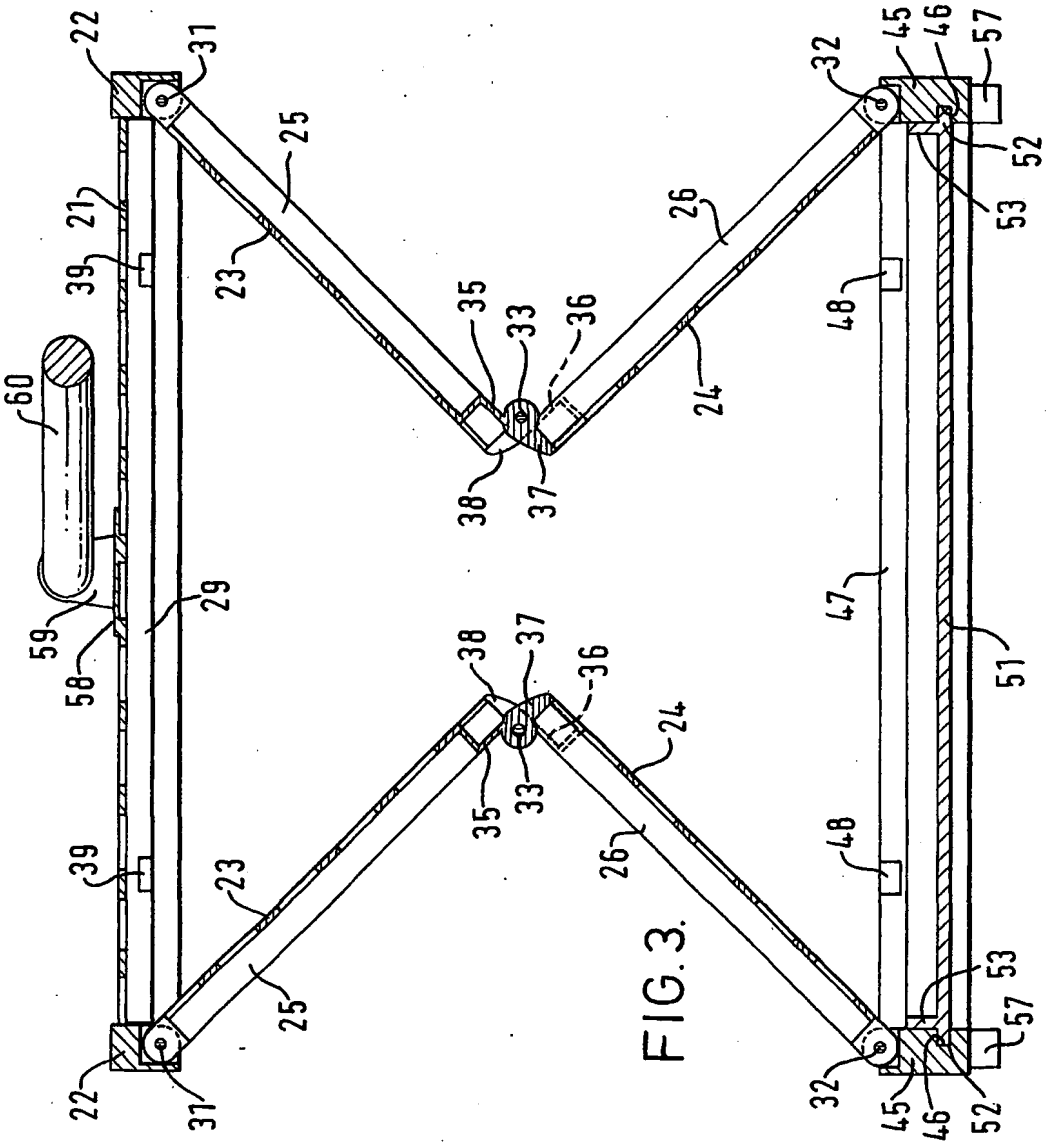
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FIG.3.

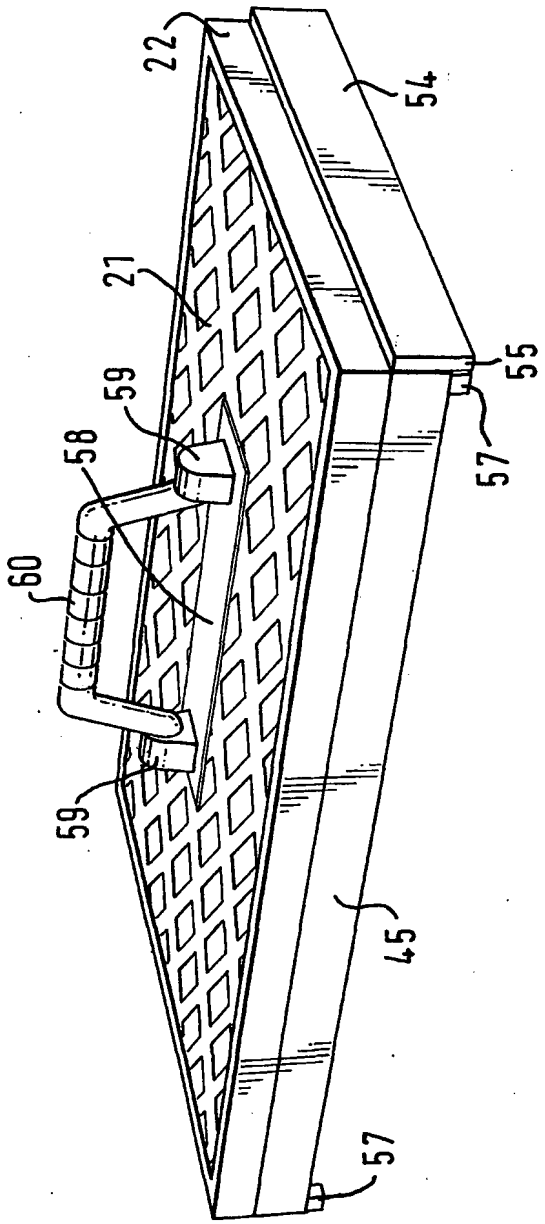

FIG.4.

INTERNATIONAL SEARCH REPORT

Inte nal Application No
PCT/GB 01/03446

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A01K1/02 A01M23/20 A01K31/08 A01K31/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A01K A01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 791 292 A (JEMPOLSKY) 11 August 1998 (1998-08-11) the whole document	1-3,10
X	DE 295 20 710 U (ENGEL) 5 June 1997 (1997-06-05) claims 1-3; figure 1	1,2,10
X A	US 4 590 885 A (SUGIURA) 27 May 1986 (1986-05-27) abstract; figures 1-10	1-3,5,6, 10 7
A	DE 198 16 411 A (DURST) 23 September 1999 (1999-09-23) the whole document	1,4,8,10

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
23 October 2001	05/11/2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	von Arx, V.

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INTERNATIONAL SEARCH REPORT

Int nal Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 195 506 A (BEARD) 20 July 1965 (1965-07-20) the whole document	7

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INTERNATIONAL SEARCH REPORT

Information on patent family members

Inte ›nal Application No
PCT/GB 01/03446

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5791292 A	11-08-1998	NONE	
DE 29520710 U	05-06-1997	DE 29520710 U1	05-06-1997
US 4590885 A	27-05-1986	GB 2035034 A ,B	18-06-1980
DE 19816411 A	23-09-1999	DE 19816411 A1	23-09-1999
US 3195506 A	20-07-1965	NONE	

Form PCT/ISA/210 (patent family annex) (July 1992)